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ABSTRACT

SWAT (Study with a Teacher) provided a 2 week summer program for 26 handicapped high school students who were mainstreamed into the regular vocational education program. Teams of participants were divided into career clusters with a vocational instructor and special education teacher. Staff was trained to use SWAT revised lesson plans and instructional materials, and worked together to develop learning packets on such topics as occupational vocabulary and reading skills; occupational mathematics and measurement skills; social and emotional factors related to mainstreaming, vocational education, and job placement; and provisions for individualization in vocational education. Students spent 3 hours per day with their SWAT team members using the materials to prepare them for their vocational programs. Followup revealed that 81 percent of student SWAT participants were successful in their vocational program. Additional benefits included increased sensitivity of vocational instructors to the handicapped students' learning styles and improved communication between special and vocational education. (CL)

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PROJECT TITLE: S. W. A. T. (Study With A Teacher)

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This project operated by funds granted by the Division of Vocational Education, Ohio Department of Education, and made available through Public Law 94-482, the Vocational Amendments of 1976.

Fiscal year of approval: Fiscal Year 1982

Narrative

S.W.A.T. helped to resolve three major problems encountered in working with handicapped students mainstreamed into the regular vocational programs at Polaris:

1. Vocational Instructors were more sensitized to the learning styles of their students. The participants developed appropriate and successful teaching strategies for their handicapped students. The teacher teams learned to adapt teaching materials to special students. Special Education Teachers have a better understanding of the vocational classroom and laboratory operation.
2. Cooperation, coordination and communication has been greatly increased through products and procedures developed during S.W.A.T. An internal directory was developed listing the contact people, alternates for emergencies, times to call, etc. (Attachment A). A S.W.A.T. Memo (Attachment B) was also designed and printed for teacher to teacher communication. It is a four part carbonless form that is now channeled through our Special Needs Coordinator for follow through and follow-up.
3. Students were able to work in the actual program laboratory in a one to one or small group setting to get familiar with the equipment and procedures. The non-threatening atmosphere enabled the students to gain confidence and build self esteem. They were able to establish a good communication base with their vocational instructor. Of the twenty-six student participants two or 8% made program changes during or after S.W.A.T. Four students or 16% have withdrawn from Polaris. Of the twenty-two still enrolled, twenty-one students or 95% are passing their vocational program. At this date 81% of all student S.W.A.T. participants are successful in their vocational program.

All handicapped junior level students enrolled in regular vocational programs at Polaris Vocational Center for the 1981-82 school year were invited to participate in S.W.A.T. The project coordinator with the Special Needs Coordinator, the vocational and special education consultant from Kent State University set up teams of participants in career clusters. Each team had a vocational instructor, a special education teacher and one to three students. A course outline of teacher discussion topics was developed (Attachment C). The teacher teams developed Demonstration Plans using the format developed by the coordination team (Attachment D). A sample Demonstration Plan is included (Attachment E). All completed Demonstration Plans were submitted for further editing and distribution by the Special Needs Department of the Vocational Education Division.

EC152528

*Contents*

A. *All junior level handicapped students scheduled to enroll in a Polaris Vocational training program were identified through a listing provided by Polaris and constituent schools guidance counselors. Letters explaining the S.W.A.T. program were sent to all identified students. Twenty-six (26) students agreed to participate in the project. Based on student response, thirteen (13) vocational instructors and fourteen (14) special education teachers participated in the project. The project coordinator and two Kent State University professors developed a course outline including objectives and evaluation procedures. (see attachment C) Vocational and special education teachers worked as a team to develop learning packets and teaching strategies to implement these packets, under the supervision of the project coordinator and the Kent State professors. The learning packets were reviewed and revised into the final demonstration plans.*

*Students spent three hours per day with their S.W.A.T. team members and through the learning packets, were introduced to the terminology, tools, equipment, and procedures they would be using in their vocational programs. Of the twenty-six (26) student participants, two (2) or 8% made program changes during or after S.W.A.T. Four (4) students or 18% have withdrawn from Polaris. Of the twenty-two (22) still enrolled, twenty-one (21) students or 95% are pa[illegible]ing their vocational programs. At this date, 81% of all st[illegible]nt S.W.A.T. participants are successful in their vocational program.*

*Locally, based on the program operation, it is our recommendation to revise the time allotments to teacher-teams and students. The teacher-teams need a longer period of time to work together to prepare the demonstration plans. Therefore we recommend that the teacher-teams be scheduled for 10 days, the first and last day of each week to be spent on developing demonstration plans and three days per week to be spent with the students. Statewide, we recommend that the program be conducted annually at each VEPD to provide handicapped students with this "head start" opportunity in their chosen vocational area.*

B. *Summarization of Persons Served:*

1) *Grade -* 26 - *11th graders*
2) *Age -* 10 - *16 year olds*
   12 - *17 year olds*
   3 - *18 year olds*
   1 - *19 year old*
3) *Sex -* 6 - *Females*
   20 - *Males*
4) *Handicaps -* 7 - *Mentally Retarded*
   2 - *Seriously Emotionally Disturbed*
   1 - *Orthapedically Impaired*
   16 - *Specific Learning Disability*
5) *Racial/Ethnic Participation -* 26 - *White*



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C. *Instructional Methods:*

*Students participated in "hands-on" and related laboratory experience from 9:00 a.m. until 12:00 noon Monday through Friday, August 10th through Autust 21st, 1981. All teachers attended from 8:00 a.m. until 1:30 p.m. on the same dates. Teams were set up in career clusters. Each team had a vocational instructor, a special education teacher and one to three students. The course outline (attachment C) of teacher discussion topics was developed and followed. Teacher teams developed Demonstration Plans based on the observations and implementations obtained from the students performing the tasks.*

*81% of the S.W.A.T. student participants have successfully completed the junior year of their chosen vocational training area.*

*In addition, as result of the S.W.A.T. project*

1) *vocational instructors have become more sensitized to the learning styles of their handicapped students*
2) *special education teachers have a better understanding of the vocational classroom and laboratory operation*
3) *better communication has been established between special education and vocational education.*

*The S.W.A.T. project has been presented at the 1980 C.E.C. Convention in Cleveland, Ohio, at a Cuyahoga County Work-Study Coordinators Luncheon, and to the special education personnel at the Bedford/Solon School District, and at the National Home Ec. Conference.*



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ATTACHMENT A

S.W.A.T. Directory Information Sheet
Please complete those sections you are willing to share with other S.W.A.T. team members.

Name: _____

Home Address: _____

_____

Home Telephone Number: ( ) _____ Best time to call: _____

I would be willing to receive call at home ( ) Yes ( ) No

I would accept emergency calls at home ( ) Yes ( ) No

Building assignment: _____

Teaching assignment: _____

School Telephone Number: ( ) _____ Ext.: _____

Building Address: _____

_____

Best time to call at school: _____

Special instructions for calls to school: _____

_____

Alternate person to call at school for emergency situation: _____

_____

Your relationship to alternate person: _____

ATTACHMENT 8

## S.W.A.T. MEMO

To:_____ Building Assignment_____

Teaching Assignment_____ Office Phone No.:_____ Ext.:____

From:_____ Building Assignment:_____

Teaching Assignment:_____ Office Phone No.:_____ Ext.:____

Name of student:_____ Lesson title:_____

Problem area:

Recommendations:

Teacher Action:

Comments or questions:

ATTACHMENT C

TEAM PROCESSES AND PRODUCTS: SWAT Project

Study With A Teacher

IA. TEAM PROCESS: Attendence and Participation in SWAT.

IB. TEAM PRODUCTS:
(1) Revised lesson plans and other instructional materials related to Vocational Education;
(2) A summary of observations and recommendations on teaching mainstreamed handicapped youth.

IIA. TEAM PROCESS: Insure the Safety of Students and Teachers.

IIB. TEAM PRODUCT: A summary of safety factors and principles applied to Vocational Education.

IIIA. TEAM PROCESS: Occupational and Laboratory Orientation.

IIIB. TEAM PRODUCTS:
(1) A summary of guidelines for orientation to the occupational laboratory.
(2) Prototype lesson plans and other instructional materials related to occupational orientation.

IVA. TEAM PROCESS: Development of Occupational Vocabulary & Reading Skills.

IVB. TEAM PRODUCT: A resource unit of instructional materials related to occupational vocabulary & reading skills.

VA. TEAM PROCESS: Development of Occupational Mathematics & Measurement Skills.

VB. TEAM PRODUCT: A resource unit of instructional materials related to occupational mathematics and measurement skills.

VIA. TEAM PROCESS: Dealing With Social & Emotional Factors Related to Mainstreaming, Vocational Education, & Job Placement.

VIB. TEAM PRODUCT: A summary of social & emotional factors and their implications for vocational & special educators.

VIIA. TEAM PROCESS: Providing for individualization in Vocational Education.

VIIB. TEAM PRODUCT: A summary of individualization principles and examples of applications to Vocational Education.

Jacques H. Robinson
Kent State University

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# DEMONSTRATION PLAN

## S.W.A.T.
## POLARIS JVSD

Nancy A. Picard COORDINATOR
Partially funded through Grant VESNH-291051
OHIO DEPARTMENT OF EDUCATION
Division of Vocational Education
Special Needs Service

OPERATION/TASK:

---

AUTHOR(S):

---

ADVISORS:

---

ENTERING BEHAVIOR:

---

SUPPLIES:

---

EQUIPMENT:

---

ADVANCE TEACHER ACTIVITY:

# DEMONSTRATION PLAN

# S.W.A.T.

## POLARIS JVSD

Nancy A. Pickard COORDINATOR
Partially funded through Grant VEASM-291G31
OHIO DEPARTMENT OF EDUCATION
Division of Vocational Education
Special Needs Service

PERATION/TASK: Laying out T-Slot Cleaner

UTHOR(S): Ken Danes
Polaris Vocational Center
Machine Trades Teacher

Judi Horton
Mayer Jr. High School (Fairview Park)
LD Teacher

DVISORS: Charles W. Nichols, Ph.D.
Kent State University
Chairperson, Department of
Vocational Education

Jacques H. Robinson, Ph.D.
Kent State University
Associate Professor, Department of
Special Education

NTERING BEHAVIOR: Students will need to have vision and eye-hand coordination, and understanding of the following vocabulary terms: dimensions, diameter

UPPLIES: one piece cold rolled steel, 1/8" X 1" X 6 1/16", layout blue

QUIPMENT: Scriber, combination square, 6" scale, file, centerpunch, dividers, bench vise, ball peen hammer

DVANCE TEACHER ACTIVITY: Supply steel, blueprint

| Proceedure (sequence of steps): | CHECK POINT | Pocential problems and adjustments: |
|---|---|---|
| 1. Put on safety glasses | | |
| 2. Study blueprint | | 2. remove blueprint page from operation sheet (last page) |
| 3. Open vise jaws by turning handle counterclockwise, place steel in bench vise | | |
| 4. File burrs off edges of steel | | 4. file in forward direction only |
| 5. Turn vise handle clockwise and remove steel from vise | | |
| 6. Lay steel on bench | | |
| 7. Open layout blue can | | |
| 8. Apply layout blue over entire surface | | 8. cover completely, but lightly |
| 9. Let layout blue dry | | 9. Layout blue should be dry to touch |
| 10. Check blueprint for dimensions of area to be scribed | | |
| 11. Set combination square to ½" | | 11. lock scale into place by turning screw |
| 12. Place combination square on stock so that square head rests on 6 1/16" side and scale rest on 1" side, ½" from left side | | |
| 13. Use scribe to mark line on steel ½" from left side of stock (vertical line) | | 13. scribe should mark through layout blue |
| 14. Turn combination square so that square head rests on the 1" side and scale rests on the 6 1/16" side | | |
| 15. Use scribe to mark line ½" from top of stock (horizontal line) | | 15. two scribed lines should cross at right angles ⊥ |
| 16. Pick up centerpunch and hammer | | |
| 17. Line up punch on center point of cross from scribed lines ⊥ | | |
| 18. Hit punch with hammer to make a small mark | | |
| 19. Put punch and hammer on bench | | |
| 20. Use scale to set dividers to ½" | | 20. turn center screw on dividers to set dividers |
| 21. Set one point of dividers on ⊥ | | |
| 22. Swing other point to mark left end of piece | | 22. mark makes ½ circle on end piece ( |

| Proceedure (sequence of steps): | CHECK POINT | Potential problems and adjustments: |
|---|---|---|
| 3. Re-set dividers to 3/16" | | 23. check with scale |
| 4. Set one point of dividers on center cross | | |
| 5. Scribe circle by swinging other leg of divider all the way around to make a full circle | | |
| 6. Put down dividers | | |
| 7. Re-set combination square to 3/8" | | 27. lock combination square in place |
| 8. Place combination square on stock so that head rests on 1" side and scale rests on 6 1/16" side | | |
| 9. Mark 3/8" line from right end with scribe (vertical line entire length of stock) | | |
| 0. Re-set combination square to 2" | | |
| 1. Set combination square so that head rests on 1" side and scale rest on 6 1/16" side | | |
| 2. Scribe a vertical line the complete length 2" from right side | | |
| 3. Re-set combination square to ½" | | 33. lock combination square |
| 4. Set combination square on top 6 1/16" edge | | |
| 5. Scribe horizontal line between 2" vertical line and 3/8" vertical line | | 35. line should be ½" from top |
| 6. Place square head on bottom edge | | |
| 7. Scribe horizontal line between 2" vertical line and 3/8" vertical line | | |
| 8. Take stock to band saw | | |
| 9. Check for proper blade | | 39. Instructor checks set up |
| 0. Turn on band saw | | |
| 1. Cut out 1 5/8" X ½" section on top and bottom as directed in blueprint | | 41. area has been scribed out check drawing for details |
| 2. Cut off edges from left end to make ½ circle end | | 42. area outlined by scribe |
| 3. Set piece in bench vise | | |
| 4. File burrs | | |
| 5. File handle end | | 45. ½ circle end |

VOCABULARY LIST
MAKING T-SLOT CLEANER

ball peen hammer -

burr - a sharp edge remaining on a metal edge after cutting, stamping, or machining, It can be dangerous if not removed.

center punch - a sharply pointed tool of hardened steel used, together with a ball peen hammer, to mark a center point for scribing or drilling

chuck key - a T-shaped tool which is used to tighten or loosen drill in drill press chuck

combination square - a square head and a scale used together, tests squareness of stock

divider - a two-legged steel instrument with hardened points used to scribe circles and parts of circles, or to lay off and measure distances

drill press - a machine which holds and turns a drill to cut holes in metal

scriber - a piece of hardened steel about 6" to 10" long, pointed on one or both ends like a needle, used to scratch lines on metal

scribing - marking metal with a scriber

stock - material used to produce the finished part

T-slots - shaped holes on table of some machines which bolts can be slipped

web - area on T-slot cleaned between handle and T (see blueprint)

S.W.A.T.
Prepared by Ken Danes/Judi Norton
Machine Trades/LD

MACHINE TRADES
Information Sheet
Making a T-Slot Cleaner

A milling machine is one of the five basic machine tools. It can do many jobs. All of the jobs a milling machine does involve cutting.

Many times the metal chips become caught in the T-slots on the table of the milling machine. Your T-slot cleaner will remove the chips from the T-slots on the milling machine. When filing, always file in one direction and keep file clean.

Use layout blue sparingly; only a thin coat is necessary.

Scribers are very sharp tools. Be careful when using them. When marking stock with the scriber, hold the scriber in your hand like a pencil. Be careful to be exact with the scale, combination square, and dividers.

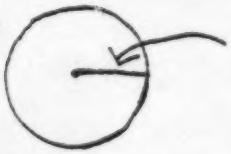
When drilling the hole for the T-slot cleaner, be certain that the stock is very tight in the drill press vise.

For tips on proper layout techniques, check pages 52-58 or 64-69 in your Metalwork textbook.

Use proper blade for sawing out scribed areas.

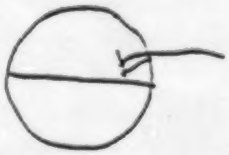
A radius and diameter both refer to a circle.

This is a radius



A radius is the distance from the center of a circle to the edge of a circle.

This is a diameter



A diameter is the distance across a circle while passing through the center of the circle.

Paper presented at the Annual Convention of the
Council for Exceptional Children
61st, Detroit, MI, April 4-8, 1983